CLAIMS

1. Droplet deposition apparatus comprising a chassis and at least first and second actuation means, each actuation means comprising an electrically actuable droplet ejection actuator and electrical drive circuitry to provide actuation signals to that actuator, wherein said chassis comprises two parallel, opposed thermal management surfaces, an internal fluid cavity situated between said thermal management surfaces such that fluid in said cavity establishes thermal contact with said surfaces and fluid ports arranged on the exterior of said chassis and communicating with said internal cavity for supply and circulation of fluid through said internal cavity; the first and second actuation means being mounted respectively on the two thermal management surfaces.

2. Apparatus according to Claim 1, wherein both the actuator and the drive circuitry of each actuation means are in thermal contact with the associated thermal management surface.

3. Apparatus according to Claim 1 or Claim 2, wherein each actuator comprises a body of piezoelectric material mounted in thermal contact with the associated thermal management surface.

4. Apparatus according to Claim 3, wherein each body of piezoelectric material defines an array of droplet ejection channels and wherein the apparatus comprises a common nozzle plate which is disposed in a plane orthogonal to said thermal management surfaces and which

defines a first set of nozzles for the droplet ejection channels of the first actuation means and a second set of nozzles for the droplet ejection channels of the second actuation means such that the mutual alignment of the first and second sets of nozzles is independent of the mutual alignment of the first and second actuation means.

5. Apparatus according to any one of the preceding claims, wherein said chassis is formed of a material having a thermal conductivity greater than ~~1.2 W/mK~~.

6. Apparatus according to any one of the preceding claims, wherein said chassis is formed of a thermally conductive plastic.

7. Apparatus according to any one of the preceding claims, wherein said chassis is formed from first and second generally concave chassis parts, each chassis part defining one of the thermal management surface parts and the chassis parts combining to define said internal cavity.

8. Apparatus according to Claim 7, wherein said chassis parts are formed by moulding.

9. Apparatus according to Claim 8, wherein said thermal management surfaces are machined for mutual alignment after combination of said chassis parts.

10. Apparatus according to any preceding claim, wherein said internal cavity comprises separator means thereby dividing said internal cavity into a first channel for providing thermal management for said actuators and a second channel for providing thermal management for said electrical drive circuitry.

11. Apparatus according to Claim 10, wherein the second channel has a greater volume than the first channel.

12. A method of manufacturing droplet deposition apparatus which comprises a chassis and at least first and second droplet ejection actuators; the method comprising the steps of:
forming a chassis with first and second parallel, opposed thermal management surfaces and an internal fluid cavity situated between said thermal management surfaces;
mounting the first and second droplet ejection actuators respectively on the first and second thermal management surfaces such that fluid in said cavity establishes thermal contact with both actuators; and
providing a common nozzle plate which is disposed in a plane orthogonal to said thermal management surfaces and which defines a first set of nozzles for the actuator and a second set of nozzles for the second actuator such that the mutual alignment of the first and second sets of nozzles is independent of the mutual alignment of the first and second actuators.

13. A method according to Claim 12, wherein the step of mounting the first and second droplet ejection actuators respectively on the first and second thermal management surfaces serves to define the mutual alignment of the first and second actuators in the apparatus.

14. A method according to Claim 12 or Claim 13, wherein each actuator comprises a body of piezoelectric material mounted in thermal contact with the associated thermal management surface.

15. A method according to any one of Claims 12 to 14, wherein said chassis is formed of a thermally conductive plastic.

16. A method according to any one of Claims 12 to 15, wherein said chassis is formed from first and second generally concave chassis parts, each chassis part defining one of the thermal management surface parts and the chassis parts combining to define said internal cavity.

17. A method according to Claim 16, wherein said chassis parts are formed by moulding.

18. A method according to Claim 17, wherein said thermal management surfaces are machined for mutual alignment after combination of said chassis parts.